

NON-PUBLIC?: N
ACCESSION #: 8803290255
LICENSEE EVENT REPORT (LER)

FACILITY NAME: River Bend Station PAGE: 1 of 3

DOCKET NUMBER: 05000458

TITLE: Automatic Reactor Scram On Greater Than 40 Percent First Stage Main
Turbine Pressure Coincident With Turbine Stop Valves Being Closed
EVENT DATE: 02/21/88 LER #: 88-007-00 REPORT DATE: 03/22/88

OPERATING MODE: 1 POWER LEVEL: 004

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR
SECTION
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: L. A. England - Director-Nuclear Licensing
TELEPHONE #: 504-381-4145

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT: On 2/21/88 at approximately 2226, with the unit in startup (mode 2 - approximately 4 percent power), an automatic reactor scram was initiated due to turbine stop valve closure coincident with greater than 40 percent power as sensed by first stage turbine pressure. Operators failed to maintain turbine first stage pressure within required limits during the turbine shell warmup procedure allowing the first stage to increase to a pressure indicative of 40 percent rated power. The operator had neglected to maintain the correct turbine first stage pressure, relying on steam pilot valve position and turbine shell temperature for indication rather than pressure indicators as required by procedure.

Operators have been provided training on this specific event. Station Operating Procedure (SOP)-0080, "Turbine Generator Operation," has been revised via temporary change notice adding a caution statement warning of the possibility of a reactor scram.

The trip signal causing this reactor scram is normally bypassed at less than 40 percent rated thermal power. Since power was approximately 4 percent, the plant was well below power values requiring the actual safety related function of the trip signal. Therefore, there was no adverse impact on the safe operation of the plant or to the health and safety of the public.

(End of Abstract)

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REPORTED CONDITION

On 2/21/88, at approximately 2226 with the unit in startup (mode 2 - approximately 4 percent power), an automatic reactor scram occurred. The trip occurred due to the turbine stop valves (*SHV*) being closed coincident with an operator induced indicated power level of greater than 40 percent as sensed by turbine first stage pressure.

INVESTIGATION

On 2/21/88, reactor startup commenced at 1706. At 2000, criticality was achieved, and at 2015, when a positive reactor pressure increase was observed, turbine (*TRB*) shell warming began at a rate of 50 degrees per hour in accordance with approved procedures. Plant startup/heatup continued until 2225 when a reactor half-scram occurred, and at 2226, a full reactor scram occurred.

Under normal operating conditions, during shell warming, the turbine control valves (*FCV*) are open, the turbine stop valves are closed, and steam is admitted to the turbine via the pilot valve in the number 2 stop valve. Turbine stop valves positioned less than or equal to 5 percent closed initiates a trip signal for the Reactor Protection System (RPS) (*JC*) logic which is enabled at greater than or equal to 40 percent reactor power (as sensed by greater than or equal to 177 psig turbine first stage pressure). Therefore, during shell warming, the turbine stop valve trip logic to RPS is satisfied, but is normally bypassed, since first stage pressure should remain below the 40 percent reactor power trip setpoint.

Turbine first stage pressure to RPS is sensed by 4 pressure transmitters, one per RPS trip channel. During turbine shell warmup, first stage pressure was allowed to increase to approximately 175 psig. This enabled one trip channel of RPS to trip on turbine stop valve position, resulting in a half scram. As pressure continued to slowly increase, a pressure transmitter in another RPS channel reached its permissive setpoint, allowing that channel to trip, initiating a full reactor scram on RPS. All plant responses occurred as designed. The root cause of this event has been attributed to the operator performing shell warming neglecting to maintain the correct first stage pressure and relying on steam valve position and turbine shell temperature for indication rather than pressure indicators as specified by Station Operating Procedure (SOP)-0080, "Turbine Generator Operation".

A review of previously submitted LERs from River Bend Station for similarity

to the event reported here revealed an event reported in LER 87-003 in which an operator opened isolation valve (*ISV*) 1FWS-MOV27A for the 'A' feedwater regulating valve (*FCV*) without first verifying the regulating valve was shut as required by approved procedures. This event is similar only to the extent that a reactor

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scram resulted from an operator's failure to follow approved procedures. The corrective action from LER 87-003 has been considered to be effective in preventing this type of error. This event in and of itself is not considered to be an adverse trend.

CORRECTIVE ACTION

Operations has provided training to operators on this specific event.

SOP-0080 was revised via temporary change notice to include a caution statement that says exceeding greater than 75 psig turbine first stage pressure can result in a reactor scram.

SAFETY ASSESSMENT

The trip signal causing this reactor scram is normally bypassed at less than 40 percent rated thermal power. Since power was approximately 4 percent, the plant was well below power values requiring the actual safety related function of the trip signal. Therefore, there was no adverse impact on the safe operation of the plant or to the health and safety of the public.

NOTE: Energy Industry Identification System Codes are identified in the text as (*XX*).

ATTACHMENT # 1 TO ANO # 8803290255 PAGE: 1 of 1

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GULF STATES UTILITIES COMPANY

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U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Gentlemen:

River Bend Station - Unit 1
Docket No. 50-458

Please find enclosed Licensee Event Report No. 88-007 for River Bend Station - Unit 1. This report is being submitted pursuant to 10CFR50.73.

Sincerely,
/s/ J. E. Booker by for
J. E. Booker
Manager-River Bend Oversight
River Bend Nuclear Group

JEB/TFP/WJB/RRS/ch

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